

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-022198**Date Inspected:** 19-Mar-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

CWI Inspectors: Mr. Geng Wei, Mr. Man-Kit Li

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. This QA Inspector observed the following:

OBG Bay 14

This QA Inspector observed ZPMC welder Mr. Wang Jinjiu stencil 043661 used shielded metal arc welding procedure specification WPS-345-SMAW-2G(2F)-FCM-Repair-1 to perform OBG segment 14E repair welds SEG3019AG-050. ZPMC QC informed this QA Inspector that weld repair document B-WR-20408 documents this weld repair. This QA Inspector measured a welding current of approximately 165 amperes (amps) and the base materials appear to have been preheated with a torch. This QA Inspector observed ABF Inspectors have marked on the base materials that magnetic particle inspections had been performed on the gouged weld surfaces prior to commencement of welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Zhao Guanglin, stencil 044779 used shielded metal arc welding procedure specification WPS-345-SMAW-2G(2F)-FCM-Repair-1 to perform OBG segment 14E repair welds

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SEG3019AG-050. ZPMC QC informed this QA Inspector that weld repair document B-WR-20408 documents this weld repair. This QA Inspector measured a welding current of approximately 170 amps and the base materials appear to have been preheated with a torch. This QA Inspector observed ABF Inspectors have marked on the base materials that magnetic particle inspections had been performed on the gouged weld surfaces prior to commencement of welding. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wang Zhengbin, stencil 216086 used shielded metal arc welding procedure WPS-B-P-2213-TC-U4B-FCM-1 to make OBG segment 14E weld SEG3019BB-223. This QA Inspector observed a welding current of approximately 170 amps the base materials were preheated with an electrical heater and Mr. Wang Zhengbin appeared to be certified to make this weld. This QA Inspector observed the vertical complete joint penetration weld did not have any weld extension plates (run off tabs). This QA Inspector issued an incident report to document the lack of weld extension plates. See below for additional information. Items observed on this date do not appear to fully comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Yang Yunfeng, stencil 215553 used shielded metal arc welding procedure WPS-B-P-2213-TC-U4B-FCM-1 to make OBG segment 14E weld SEG3019BB-038. This QA Inspector observed a welding current of approximately 165 amps the base materials were preheated with an electrical heater and Mr. Yang Yunfeng appeared to be certified to make this weld. This QA Inspector observed the vertical complete joint penetration weld did not have any weld extension plates (run off tabs). This QA Inspector issued an incident report to document the lack of weld extension plates. See below for additional information. Items observed on this date do not appear to fully comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Kuai Wenshan, stencil 054013 used shielded metal arc welding procedure specification WPS-B-P-2214-TC-U4B-FCM-1 to make OBG segment 14E weld DP3120-001-083 & 084. This QA Inspector observed a welding current of approximately 170 amps, the base materials were preheated with a torch and Mr. Kuai Wenshan appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder stencil 050969 used shielded metal arc welding procedure specification WPS-B-P-2213-TC-U4B-FCM-1 to make OBG segment 14E weld DP3089-001-019, 023, 026 and 027. This QA Inspector observed a welding current of approximately 150 amps and the base materials were preheated with an electric heater. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Ms. Chen Fenglian, stencil 206623 used flux cored welding procedure specification WPS-B-T-2232-ESAB to make OBG segment 13BE weld SEG3009C-005. This QA Inspector measured a welding current of approximately 230 amps and 24.5 volts. This QA Inspector observed the base materials were preheated with electrical heaters and Ms. Chen Fenglian appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Chen Chuanzong, stencil 044824 used flux cored welding procedure specification WPS-B-T-2232-ESAB to make OBG segment 13BE weld SEG3009C-005. This QA Inspector measured a welding current of approximately 230 amps and 26.0 volts. This QA Inspector observed the base materials were preheated with electrical heaters and Mr. Chen Chuanzong appeared to be certified to make

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this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Liu Min, stencil 044790 used flux cored welding procedure WPS-B-T-2133-ESAB to make OBG Segment 14E unidentified welds. This QA Inspector observed a welding current of approximately 325 amps and 25.0 volts. Mr. Liu Min appeared to be certified to make this weld. This QA Inspector asked ABF CWI Mr. Man-Kit Li if he knew what weld number was being welded. Mr. Man-Kit Li informed this QA Inspector that this weld is addressed on a "Request for Information" and that he will need to obtain a weld number from Engineering. Note: This weld is located approximately three meters below welds SA3358-001-006 and 007 and the plate appears to be the same size as the plate that contains welds SA3358-001-006 and 007. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector informed ABF CWI Mr. Man-Kit Li that an incident report will be issued to document ZPMC welded twelve (12) complete joint penetration (CJP) butt joints without utilizing Weld Tabs (Run off Plates). These CJP joints are identified as SEG3019BB-038, 060, 082, 104, 126, 148, 220~223 and 276 and these weld joints join stiffener plates that are attached to bottom plates BP3084A, BP3085A and BP30856 near point 125, adjacent to segment 14E anchor plate. See the photographs below for additional information.



Summary of Conversations:

See Above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact James Devey +8615000026784, who represents the Office of Structural Materials for your project.

Inspected By: Dawson,Paul

Quality Assurance Inspector

Reviewed By: Riley,Ken

QA Reviewer
